

8

**Notice of Allowability**

Application No.

10/707,813

Examiner

Albert K. Wong

Applicant(s)

BARBER ET AL

Art Unit

2635

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the election filed 1/17/2006.
2. ☒ The allowed claim(s) is/are 35-40.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                     | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

Art Unit: 2635

1. This Office action is in response to the election without traverse filed January 17, 2006.

Claims 35-40 are pending. Claims 1-35 have been cancelled.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brian White on January 26, 2006.

The application has been amended as follows:

#### **In the specification:**

In paragraph 31, the fifth sentence should be changed to:

"These four measurements should be acquired at at least three different DOIs for three of the measurements, and at least one of the four measurements should be sensitive to formation anisotrophy."

#### **In the claims:**

35. (Currently Amended) A method for well logging, comprising:

disposing an electromagnetic logging tool in a borehole penetrating a formation;

obtaining a plurality of measurements of formation resistivity while the logging tool is substantially at a particular location within the borehole, wherein

the plurality of measurements cover at least three different depths of investigation and at least one of the plurality of measurements is sensitive to formation anisotropy; and

determining an electrical property of the formation based on the plurality of measurements.

36. (Currently Amended) The method of claim 35, wherein the determining an electrical property of the formation comprises determining an invaded zone resistivity, an un-invaded zone resistivity, formation anisotropy, or any combination thereof.

40. (Currently Amended) The method of claim 35, wherein the determining an electrical property of the formation uses a formation model selected from a 1D model, a 1D+1D model, a 2D model, and a 3D model.

3. Claims 35-40 are allowed.

4. The following is an examiner's statement of reasons for allowance: The claims recite a method for well logging using an electromagnetic tool at substantially the same location while making measurements at three different depths of investigation as well as a separate measurement sensitive to formation anisotropy. It is noted that different depths of investigation may be performed by locating portions of the logging tool at different depths but may also be performed by using different frequencies while having the portions of the tool substantially

Art Unit: 2635

concurrent. Such a combination is not taught or suggested by the prior art of record. The use of logging tools to measure anisotropy is known but such teaching involves moving the tools within to borehole to make measurements at different depths. The method recited allows the simultaneous measurement at three depths that results in greater understanding of the electrical characteristics of the formation that would not be possible by measurements at individual depths.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert K. Wong whose telephone number is 571-272-3057. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 571-272-3068. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/707,813

Page 5

Art Unit: 2635

Albert K. Wong  
January 31, 2006

A handwritten signature in black ink, appearing to read 'Albert K. Wong', with a stylized, cursive script.

**ALBERT K. WONG**  
**PRIMARY EXAMINER**